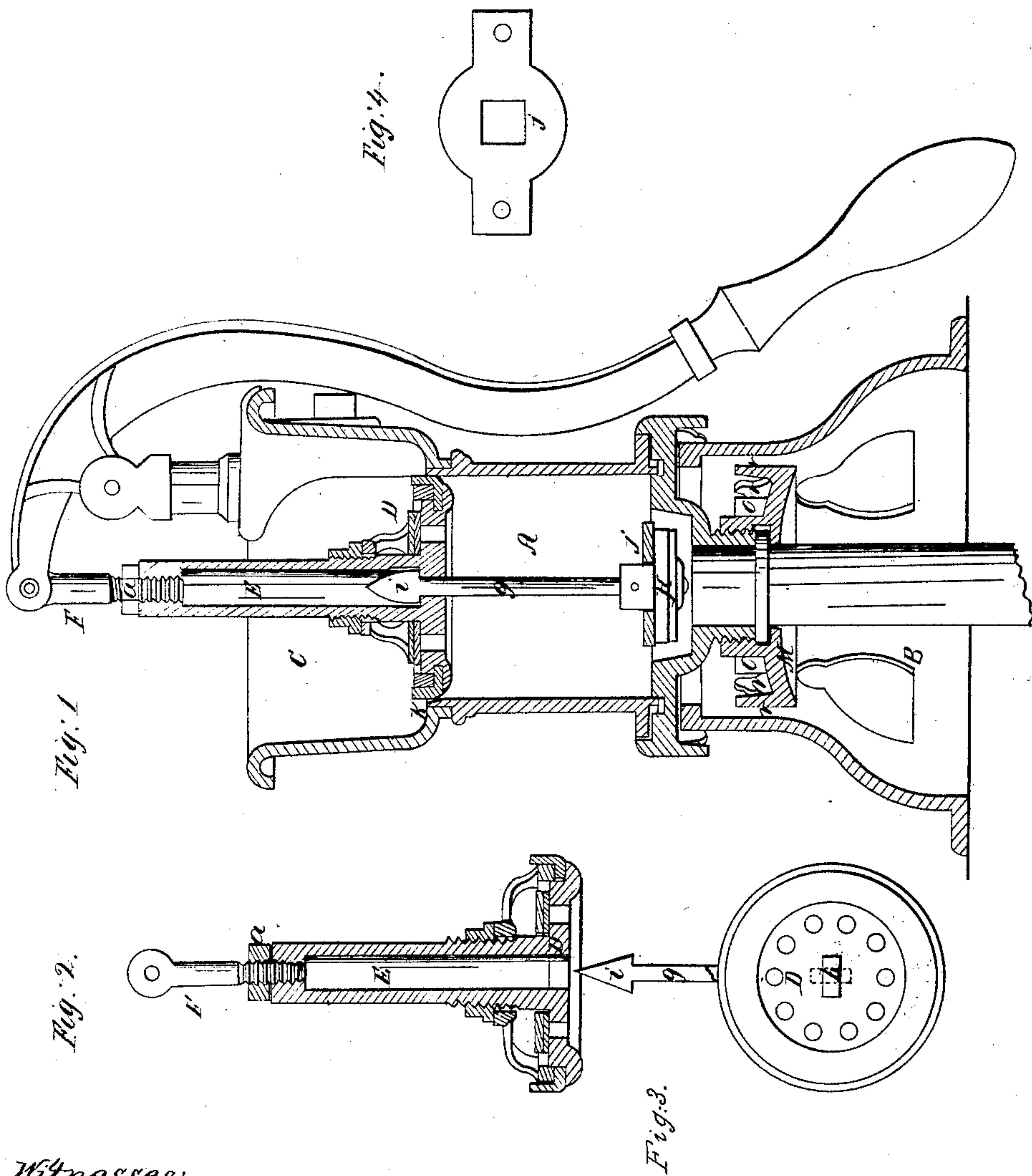


B. Holly,
Pump Lift

N^o 27,128.

Patented Feb. 14, 1860.



Witnesses;
J. Braun
Esq.

Inventor;
Birdsill Holly

UNITED STATES PATENT OFFICE.

BIRDSILL HOLLY, OF LOCKPORT, NEW YORK.

PUMP.

Specification of Letters Patent No. 27,128, dated February 14, 1860.

To all whom it may concern:

Be it known that I, BIRDSILL HOLLY, of Lockport, in the county of Niagara and State of New York, have invented a new and Improved Mode of Constructing Cistern-Pumps; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, making part of this specification, in which—

Figure 1, is a vertical section through the center of the pump, Fig. 2, is a sectional view of the piston head detached, and of the rod connecting it with the lower valve; Fig. 3, is a plan view of the underside of the piston. Fig. 4, is a plan view of the yoke *j*.

Similar letters refer to corresponding parts in all of the figures.

My improvements consist in a method of connecting the lower valve with the piston by which the latter is made to raise the valve from its seat, and thereby effect the drainage of the cylinder when required.

This improvement is represented in the drawings as applied to cistern or suction pumps of the "pitcher spout" form, A, being the cylinder, B, the base and C, the top thereof. The piston, D, is provided with a hollow stem E, which is connected with the handle by means of the screw rod F. A nut *a* regulates the distance which the rod enters the stem. The interior of the stem E, is reached by means of a slot *b* Fig. 3, through the lower disk of the piston, and a rod *g* is attached to the valve H, of the cylinder, having a flattened arrow-head, *i*, which is inserted through the slot *b*, when the piston is turned a quarter of a revolution to connect it with the handle, which brings the head longitudinally across the slot and thereby secures its connection until the piston is returned to the position at which it was inserted, which can only be done by removing it from the handle. Accidental dis-

connections from the turning of the lower valve is provided against by placing the cross yoke *j* above it secured to the base by screws, through which a square stem of the valve works in an opening of corresponding form.

By means of the nut *a* the piston is adjusted so that the connecting rod *g*, during the principal part of the stroke acts free from all influence of the motion of the piston, but at the last part of the stroke the bottom of the stem E, comes in contact with the head of the rod and raises the valve H, an eighth of an inch or thereabout, being sufficient to insure the return of the water through the valve, and effect the drainage of the cylinder. A small groove *k* at the top of the cylinder admits air at the same time that the valve is raised, thus facilitating the escape of the water. By placing the nut *a* lower down the piston is placed in a position which does not act on the rod the head *i* sliding freely in the stem, and by which no air is admitted through *k* which adapts the pump for summer use when it is desirable to retain the water. As a winter arrangement this is very effective, requiring no care on the part of the person who uses it as the falling of the handle insures the drainage of the pump.

These improvements may be applied to any pumps of ordinary construction.

What I claim as my invention, and desire to secure by Letters Patent, is—

Connecting the valve H, to the piston D, by means of the rod *g*, or its equivalent, hollow piston stem E, and regulating nut *a*, arranged and operating substantially in the manner and for the purpose shown and described.

BIRDSILL HOLLY.

Witnesses:

J. FRASER,
S. J. ALLIS.